

AMENDMENTS TO THE CLAIMS

Please cancel claims 17-20, 22, and 24-26, and amend claims 6-10 and 14-16 as set forth below.

Claims 1-5 are CANCELED.

6. (CURRENTLY AMENDED) An optical pickup device comprising:

a first light source for emitting a first light beam having a first wavelength;

a second light source for emitting a second light beam having a second wavelength different from the first wavelength;

an objective lens for focusing said first light beam or said second light beam to the signal recording surface of an optical recording medium of a first matching to the first wavelength of that of an optical recording medium of a second type matching to the second wavelength, whichever appropriate;

a photodetector for detecting the light beam focused on the signal recording surface of the optical recording medium of the first type or that of the optical recording medium of the second type, whichever appropriate, by the objective lens and reflected by the signal recording surface; and

a diffraction element having a pair of plates ~~of a medium and~~ arranged on the light path from the signal recording surfaces of the two pieces of optical recording medium to the photodetector, each of said plates carrying a diffraction grating formed on one of the surface planes, wherein a first plate of the pair of plates has a first diffraction angle and a second plate of the pair of plates has a second diffraction angle, and the first and second plates are mounted so that each plate is independently adjustable along the direction of an optical axis of the optical pickup device to regulate at least one of the first and second diffraction angles;

at least either the first light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the first type and reflected by the signal recording surface of the optical recording medium of the first type or the second light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the second type and reflected by the signal recording surface of the optical recording medium of the second type and being diffracted by the diffraction element,

wherein the first reflected light beam and the second reflected light beam being focused to a same spot on the light receiving surface of the photodetector.

7. (CURRENTLY AMENDED) An optical pickup device comprising:

a first light source for emitting a first light beam having a first wavelength;

a second light source for emitting a second light beam having a second wavelength different from the first wavelength;

an objective lens for focusing said first light beam or said second light beam to the signal recording surface of an optical recording medium of a first type matching to the first wavelength or that of an optical recording medium of a second type matching to the second wavelength, whichever appropriate;

a photodetector for detecting the light beam focused on the signal recording surface of the optical recording medium of the first type or that of the optical recording medium of the second type, whichever appropriate, by the objective lens and reflected by the signal recording surface; and

a diffraction element having a pair of plates ~~of a medium and~~ arranged on the light path from the light sources to the photodetector by way of the two pieces of optical recording medium, each of said plates carrying a diffraction grating formed on one of the surface planes, wherein a first plate of the pair of plates has a first diffraction angle and a second plate of the pair of plates has a second diffraction angle, and the first and second plates are mounted so that each plate is independently adjustable along the direction of an optical axis of the optical pickup device to regulate at least one of the first and second diffraction angles;

each of the first light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the first type and reflected by the signal recording surface of the optical recording medium of the first type and the second light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the second type and reflected by the signal recording surface of the optical recording medium of the second type, and being diffracted by the diffraction element, wherein the first reflected light beam and the second reflected light beam are focused to a same spot on the light receiving surface of the photodetector.

8. (CURRENTLY AMENDED) An optical pickup device comprising:

a first light source for emitting a first light beam having a first wavelength;
a second light source for emitting a second light beam having a second wavelength different from the first wavelength;
an objective lens for focusing said first light beam or said second light beam to the signal recording surface of an optical recording medium of a first type matching to the first wavelength or that of an optical recording medium of a second type matching to the second wavelength, whichever appropriate;
a photodetector for detecting the light beam focused on the signal recording surface of the optical recording medium of the first type or that of the optical recording medium of the second type, whichever appropriate, by the objective lens and reflected by the signal recording surface; and
a diffraction element having a pair of plates ~~of a medium and~~ arranged on the light path from the light sources to the signal recording surfaces of the two pieces of optical recording medium, each of said plates carrying a diffraction grating formed on one of the surface planes, wherein a first plate of the pair of plates has a first diffraction angle and a second plate of the pair of plates has a second diffraction angle, and the first and second plates are mounted so that each plate is independently adjustable along the direction of an optical axis of the optical pickup device to regulate at least one of the first and second diffraction angles;
at least either the first light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the first type and reflected by the signal recording surface of the optical recording medium of the first type or the second light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the second type and reflected by the signal recording surface of the optical recording medium of the second type, and being diffracted by the diffraction element, wherein the first reflected light beam and the second reflected light beam being focused to a same spot on the light receiving surface of the photodetector.

9. (CURRENTLY AMENDED) An optical disc device comprising:

a rotary operating mechanism for driving one or more than one optical discs operating so many pieces of optical recording medium as to rotate; and
an optical pickup device arranged opposite to the signal recording surfaces of the one or more than one optical discs driven to rotate by said rotary operating mechanism;

said optical pickup device comprising:

a first light source for emitting a first light beam having a first wavelength;

a second light source for emitting a second light beam having a second wavelength different from the first wavelength;

an objective lens for focusing said first light beam or said second light beam to the signal recording surface of an optical recording medium of a first type matching to the first wavelength or that of an optical recording medium of a second type matching to the second wavelength, whichever appropriate;

a photodetector for detecting the light beam focused on the signal recording surface of the optical recording medium of the first type or that of the optical recording medium of the second type, whichever appropriate, by the objective lens and reflected by the signal recording surface; and

a diffraction element arranged on the light path from the light sources to the photodetector by way of the two pieces of optical recording medium, wherein the diffraction element includes a pair of plates, a first plate of the pair of plates has a first diffraction angle and a second plate of the pair of plates has a second diffraction angle, and the first and second plates are mounted so that each plate is independently adjustable along the direction of an optical axis of the optical pickup device to regulate at least one of the first and second diffraction angles;

at least either the first light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the first type and reflected by the signal recording surface of the optical recording medium of the first type or the second light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the second type and reflected by the signal recording surface of the optical recording medium of the second type and being diffracted by the diffraction element, wherein the first reflected light beam and the second reflected light beam being focused to a same spot on the light receiving surface of the photodetector.

10. (CURRENTLY AMENDED) An optical disc device comprising:

a rotary operating mechanism for driving one or more than one optical discs operating so many pieces of optical recording medium as to rotate; and

an optical pickup device arranged opposite to the signal recording surfaces of the one or more than one optical discs driven to rotate by said rotary operating mechanism; said optical pickup device comprising:

a first light source for emitting a first light beam having a first wavelength;

a second light source for emitting a second light beam having a second wavelength different from the first wavelength;

an objective lens for focusing said first light beam or said second light beam to the signal recording surface of an optical recording medium of a first type matching to the first wavelength or that of an optical recording medium of a second type matching to the second wavelength, whichever appropriate;

a photodetector for detecting the light beam focused on the signal recording surface of the optical recording medium of the first type or that of the optical recording medium of the second type, whichever appropriate, by the objective lens and reflected by the signal recording surface; and

a diffraction element arranged on the light path from the light sources to the photodetector by way of the two pieces of optical recording medium, wherein the diffraction element includes a pair of plates, a first plate of the pair of plates has a first diffraction angle and a second plate of the pair of plates has a second diffraction angle, and the first and second plates are mounted so that each plate is independently adjustable along the direction of an optical axis of the optical pickup device to regulate at least one of the first and second diffraction angles;

each of the first light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the first type and reflected by the signal recording surface of the optical recording medium of the first type and the second light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the second type and reflected by the signal recording surface of the optical recording medium of the second type and being diffracted by the diffraction element, the first reflected light beam and the second reflected light beam being focused to a same spot on the light receiving surface of the photodetector.

Claims 11-13 are CANCELED.

14. (CURRENTLY AMENDED) An optical disc device comprising:

a rotary operating mechanism for driving one or more than one optical discs operating so many pieces of optical recording medium as to rotate, and

an optical pickup device arranged opposite to the signal recording surfaces of the one or more than one optical discs driven to rotate by said rotary operating mechanism;

said optical pickup device comprising:

a first light source for emitting a first light beam having a first wavelength;

a second light source for emitting a second light beam having a second wavelength different from the first wavelength.

an objective lens for focusing said first light beam or said second light beam to the signal recording surface of an optical recording medium of a first type matching to the first wavelength or that of an optical recording medium of a second type matching to the second wavelength, whichever appropriate;

a photodetector for detecting the light beam focused on the signal recording surface of the optical recording medium of the first type or that of the optical recording medium of the second type, whichever appropriate, by the objective lens and reflected by the signal recording surface; and

a diffraction element having a pair of plates ~~of a medium and~~ arrange on then light path from the signal recording surfaces of the two pieces of optical recording medium to the photodetector, each of said plates carrying a diffraction grating formed on one of the surface planes, wherein a first plate of the pair of plates has a first diffraction angle and a second plate of the pair of plates has a second diffraction angle, and the first and second plates are mounted so that each plate is independently adjustable along the direction of an optical axis of the optical pickup device to regulate at least one of the first and second diffraction angles;

at least either the first light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the first type and reflected by the signal recording surface of the optical recording medium of the first type or the second light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the second type and reflected by the signal recording surface of the optical recording medium of the second type and being diffracted by the diffraction element, wherein the first reflected light beam and the second reflected light beam being focused to a same spot on the light receiving surface of the photodetector.

15. (CURRENTLY AMENDED) An optical disc device comprising:

a rotary operating mechanism for driving one or more than one optical discs operating as so many pieces of optical recording medium to rotate; and

an optical pickup device arranged opposite to the signal recording surfaces of the one or more than one optical discs driven to rotate by said rotary operating mechanism;

said optical pickup device comprising:

a first light source for emitting a first light beam having a first wavelength;

a second light source for emitting a second light beam having a second wavelength different from the first wavelength;

an objective lens for focusing said first light beam or said second light beam to the signal recording surface of an optical recording medium of a first type matching to the first wavelength or that of an optical recording medium of a second type matching to the second wavelength, whichever appropriate;

a photodetector for detecting the light beam focused on the signal recording surface of the optical recording medium of the first type or that of the optical recording medium of the second type, whichever appropriate, by the objective lens and reflected by the signal recording surface; and

a diffraction element having a pair of plates ~~of a medium and~~ arranged on the light path from the light sources to the photodetector by way of the two pieces of optical recording medium, each of said plates carrying a diffraction grating formed on one of the surface planes, wherein a first plate of the pair of plates has a first diffraction angle and a second plate of the pair of plates has a second diffraction angle, and the first and second plates are mounted so that each plate is independently adjustable along the direction of an optical axis of the optical pickup device to regulate at least one of the first and second diffraction angles;

each of the first light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the first type and reflected by the signal recording surface of the optical recording medium of the first type and the second light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the second type and reflected by the signal recording surface of the optical recording medium of the second type and being diffracted by the diffraction element, wherein the first reflected light beam and the second reflected light beam being focused to a same spot on the light receiving surface of the photodetector.

16. (CURRENTLY AMENDED) An optical disc device comprising:
- a rotary operating mechanism for driving one or more than one optical discs operating so many pieces of optical recording medium as to rotate; and
 - an optical pickup device arranged opposite to the signal recording surfaces of the one or more than one optical discs driven to rotate by said rotary operating mechanism;
- said optical pickup device comprising:
- a first light source for emitting a first light beam having a first wavelength;
 - a second light source for emitting a second light beam having a second wavelength different from the first wavelength;
 - an objective lens for focusing said first light beam or said second light beam to the signal recording surface of an optical recording medium of a first type matching to the first wavelength or that of an optical recording medium of a second type matching to the second wavelength, whichever appropriate;
 - a photodetector for detecting the light beam focused on the signal recording surface of the optical recording medium of the first type or that of the optical recording medium of the second type, whichever appropriate, by the objective lens and reflected by the signal recording surface; and
- a diffraction element having a pair of plates ~~of a medium and~~ arranged on the light path from the light sources to the signal recording surfaces of the two pieces of optical recording medium, each of said plates carrying a diffraction grating formed on one of the surface planes, wherein a first plate of the pair of plates has a first diffraction angle and a second plate of the pair of plates has a second diffraction angle, and the first and second plates are mounted so that each plate is independently adjustable along the direction of an optical axis of the optical pickup device to regulate at least one of the first and second diffraction angles;
- at least either the first light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the first type and reflected by the signal recording surface of the optical recording medium of the first type or the second light beam adapted to be used for reading information signals from the signal recording surface of the optical recording medium of the second type and reflected by the signal recording surface of the optical recording medium of the second type and being diffracted by the diffraction element, the first reflected light beam and the second reflected light beam being focused to a same spot on the light receiving surface of the photodetector,

Claims 17.-20 are (CANCELED)

21. (PREVIOUSLY PRESENTED) The optical pickup device of claim 9, wherein said diffraction element is arranged on one of a forward light path or backward light path of said light path from the light sources to the photodetector.

22. (CANCELED)

23. (PREVIOUSLY PRESENTED) The optical pickup device of claim 10, wherein said diffraction element is arranged on one of a forward light path or backward light path of said light path from the light sources to the photodetector.

Claims 24.-26. are (CANCELED)